
FRBSF WEEKLY LETTER

March 28, 1986

The Contract Defense Industry in the West

In recent years, the contract defense industry has contributed significantly to the western economy. For example, vast infusions of defense monies have placed 41 percent of all aerospace jobs (many of which are defense-related) in the five western states that comprise the Pacific Census region (Alaska, California, Hawaii, Oregon, and Washington). Furthermore, in fiscal year (FY) 1985, manufacturers in the Twelfth Federal Reserve District (Alaska, Arizona, California, Hawaii, Idaho, Nevada, Oregon, Utah, and Washington) received some \$37 billion in prime Department of Defense (DOD) contracts for research, development, and construction of major weapons systems, or over 24 percent of all contracts awarded nationally. California led the nation in contract awards, receiving about \$29 billion or 19 percent of the U.S. total.

This *Letter* examines the role of contract defense spending in the western economy and the potential impact of defense spending cuts that may be instituted to reduce the federal government's budget deficit. We conclude that defense contractors have historically been quite vulnerable to changes in defense outlays, but the mixture of activities concentrated in the West should reduce the adverse impact of any such spending cuts.

Contribution to economic activity

Following the national pattern, manufacturing employment has declined as a share of total employment in the West over the past few years. The decline would have been considerably greater had it not been for strength in defense-related aerospace manufacturing. Currently in California, jobs in the aerospace and related industries account for about 36 percent of all jobs in manufacturing and almost 7 percent of the total nonagricultural employment base. In Washington, aerospace and related employment makes up 31 percent of total manufacturing and over 5 percent of total employment. The industry is relatively less important in other western states, but still contributes significantly to overall employment growth.

Many analysts have attempted to measure the impact of defense spending on regional economies, although such estimates are generally

regarded as too optimistic. The estimates overstate the positive effects of spending increases because they ignore the taxes or government borrowing required to fund government spending. Estimates from various sources, including the DOD, indicate that each \$1 of additional defense spending generates \$1.60 to \$2.70 in additional spending and income. Indeed, according to some estimates, growth in defense spending may have been responsible for as much as 10 to 20 percent of total economic growth in California during 1984. DOD economists also estimate that each additional \$1 billion in prime contracts directly creates an additional 7,500 jobs.

Various other studies give a less optimistic view of the job creation potential of defense spending. They have indicated that a dollar of spending in the defense industries generates fewer jobs than the equivalent spending boost in the non-defense manufacturing sector because defense expenditures are increasingly aimed at more capital intensive activities. The importance of highly specialized, high technology weapons systems has increased relative to that of conventional military hardware. In 1968, for example, the aircraft and missile components of aerospace employment made up over 59 percent of the total. That share now stands at about 30 percent; computers and electronic equipment account for the balance.

Today, many of the defense industry's workers are highly compensated specialists rather than production workers. Whereas in 1968, production workers made up about 53 percent of the aerospace workforce, they made up only about 45 percent in 1985. In missile and space-vehicle manufacturing, only one-third of the workers are production workers. In contrast, production workers currently account for about 70 percent of all employees in the U.S. manufacturing sector as a whole. Consequently, while defense contracts contribute significantly to some regions' economies, the jobs they create directly may not be accessible to the majority of the labor force.

Future instability?

While defense spending contributes significantly

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to regional economic growth, excessive dependence on this source of investment could lead to future instability. Historically, the aerospace industry has been extremely vulnerable to dramatic dislocations as the volume of defense spending fluctuated with national policy objectives.

The aerospace sector also has been affected by cyclical declines in overall economic activity because commercial aircraft purchases (another large part of the sector) are cyclically sensitive. From 1965 to 1968, aerospace employment in the West grew by about 30 percent in conjunction with the Vietnam arms build-up. Then, as the volume of contract defense awards fell between 1968 and 1971 and the economy slipped into recession, employment in the industry plunged 31 percent. Moderate employment growth resumed until the 1974-75 recession again caused great losses. Under the Reagan Administration's military build-up, western aerospace employment, shown in the chart, has skyrocketed again (by about 17 percent) to a record high level.

Several regions in the West have reaped the bulk of benefits from the boom in defense-related manufacturing and therefore have the most to lose should major cutbacks in defense spending occur. Missile and military aircraft production, the two largest components of total military sales, have been centered near Los Angeles. Los Angeles County captured about 48 percent of total 1984 DOD contracts awarded in California, and the Los Angeles/Long Beach area presently provides an estimated 40 percent of all jobs in the state's aerospace industry.

The Silicon Valley region in northern California's Santa Clara County has benefitted from the growing portion of the defense budget allocated to military electronics. Firms in that area received about 28 percent of all the DOD contracts awarded in the state in 1984 — a 19 percent increase from the previous year. Much of this increase in defense-related spending was due to huge new contracts awarded to one of the nation's primary contractors for the Strategic Defense Initiative, or "Star Wars", project. It is estimated that defense-related spending now generates from ten to twenty percent of the manufacturing jobs in Santa Clara County.

Employment at the Seattle/Tacoma-based Boeing Company accounts for about 80 percent of total aerospace employment in Washington, and provides a significant boost to the economy of the Seattle area. Although defense and space shipments accounted for only 43 percent of Boeing's 1984 sales, they accounted for 94 percent of Boeing's pre-tax profits.

The dangers of extreme reliance on defense spending have been illustrated by the erratic booms and busts experienced in smaller regions dominated by the contract defense industry. Southern California's "Aerospace Valley" near Palmdale relies on large aerospace operations for as much as 90 percent of its overall economic activity (according to one estimate). Such lack of diversification has resulted in violent swings in employment levels.

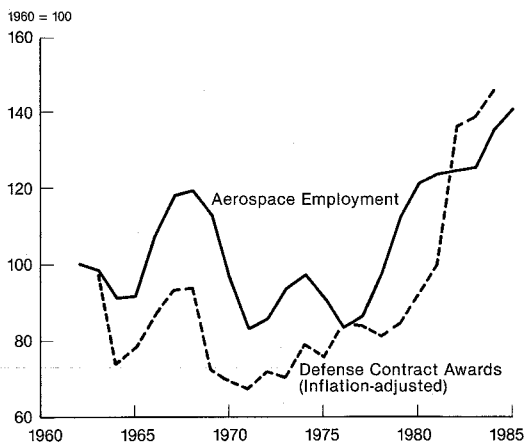
Other western regions have also experienced painful dislocations when weapons programs were canceled or when contracts expired. In the mid-1960s, employment at one Sacramento plant fell by 90 percent — from 20,000 to 2,000 — in one year. The history of the Seattle area's economy has been a prominent example of the sharp swings in activity that can result from reliance on a single industry. Employment losses from a dependence on the Boeing Company were especially severe in the 1970s, and led to Seattle's diversification away from aerospace.

Outlook for defense spending

The outlook for the contract defense industry depends critically on the outcome of the battle to reduce the federal budget deficit now under way in Washington, D.C. On the one hand, President Reagan is proposing further increases in military spending. On the other, some members of Congress are balking at the prospect, and have proposed substantial cuts in specific weapons programs, including some (the Trident submarine and the Stealth bomber) that are built principally in the West. If Congress and the President are unable to agree, then the Gramm-Rudman-Hollings deficit reduction act will impose across-the-board expenditure cuts.

Regardless of any Constitutional or other challenge to Gramm-Rudman-Hollings, as of March 1 defense spending for the remainder of FY 1986 will be cut by \$4.9 percent. DOD will lose

Value of Prime Defense Contracts
and Aerospace Employment in the West



about \$13.8 billion in 1986 budget authority. This includes a reduction of about \$5.4 billion in outlays for FY 1986; the remainder, \$8.4 billion, will take the form of smaller outlay reductions in each of the next few years.

The prospects beyond FY 1986 are not at all clear. DOD projects that the budget for weapons procurement will decline slightly next year. But the FY 1987 budget recently submitted by the Reagan Administration, which complies with the Gramm-Rudman-Hollings deficit ceiling, calls for a 3 percent increase in inflation-adjusted defense spending. According to the provisions of Gramm-Rudman-Hollings, failure to meet the stipulated deficit ceiling would trigger automatic defense outlay cuts estimated at \$18.5 billion, or 6.5 percent of the projected defense outlays for FY 1987. A Congressional compromise that meets the deficit target would likely fall between these two extremes.

Although slowing the growth of or shrinking defense appropriations could affect the contract

defense industry by the late 1980s, the current backlog of orders at aerospace manufacturers as well as unspent federal defense appropriations left over from previous years ensure high levels of activity over at least the next two years.

Furthermore, compared to other regions, the western aerospace industry may be fairly insulated from defense spending cuts. While DOD spending on many weapons programs has been levelling off in recent years, expenditures allocated to military electronics, in which Western producers specialize, have grown about 15 percent annually. In addition, the Reagan Administration's FY 1987 budget indicates continued commitment to programs being developed primarily in the West. These projects include SDI, the MX "Peacekeeper" missile, the Stealth bomber, and the Trident submarine-launched ballistic missile system. Some of these projects could backfire on the West, however, because they are also on the list of big-money items targeted for elimination by some members of Congress.

Summary

While the contract defense industry, fueled by recent rapid increases in federal defense spending, contributes significantly to regional economic growth, overreliance on this sector could result in severe economic dislocations. Historically, contract defense activity has been quite sensitive to changes in government spending patterns. Current deficit-reducing proposals, which affect defense spending, therefore pose a threat to regional economic growth. Any potentially adverse impact on the West would, however, be cushioned by this region's dominance in the area of high-technology defense electronics and perhaps also by its large share of the Administration's top priority projects.

Kristin Hotti and Carolyn Sherwood-Call

MONETARY POLICY OBJECTIVES FOR 1986

Federal Reserve Chairman Paul Volcker presented a report to the Congress on the Federal Reserve's monetary policy objectives for 1986 on February 19. The report includes a summary of the Federal Reserve's monetary policy plans along with a review of economic and financial developments in 1985 and the economic outlook in 1986. Single or multiple copies of the report can be obtained upon request from the Public Information Department, Federal Reserve Bank of San Francisco, P.O. Box 7702, San Francisco, CA 94120; phone (415) 974-2246.

Opinions expressed in this newsletter do not necessarily reflect the views of the management of the Federal Reserve Bank of San Francisco, or of the Board of Governors of the Federal Reserve System.

Editorial comments may be addressed to the editor (Gregory Tong) or to the author . . . Free copies of Federal Reserve publications can be obtained from the Public Information Department, Federal Reserve Bank of San Francisco, P.O. Box 7702, San Francisco 94120. Phone (415) 974-2246.

Alaska Arizona California Hawaii Idaho
Nevada Oregon Utah Washington

Research Department Federal Reserve Bank of San Francisco

BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT (Dollar amounts in millions)

| Selected Assets and Liabilities Large Commercial Banks | Amount Outstanding | Change from | Change from 3/6/85 | |
|---|-------------------------|-------------------------|--------------------|----------------------|
| | 3/5/86 | 2/26/86 | Dollar | Percent ⁷ |
| Loans, Leases and Investments ^{1 2} | 202,297 | 1,587 | 13,212 | 6.9 |
| Loans and Leases ^{1 6} | 183,384 | 1,726 | 11,976 | 6.9 |
| Commercial and Industrial | 53,097 | 448 | — 3 | — 0.0 |
| Real estate | 66,351 | 53 | 3,953 | 6.3 |
| Loans to Individuals | 38,446 | — 101 | 5,590 | 17.0 |
| Leases | 5,649 | — 23 | 320 | 6.0 |
| U.S. Treasury and Agency Securities | 10,782 | — 64 | 41 | 0.3 |
| Other Securities ² | 8,131 | — 75 | 1,194 | 17.2 |
| Total Deposits | 202,463 | 4,183 | 8,071 | 4.1 |
| Demand Deposits | 49,627 | 3,495 | 4,882 | 10.9 |
| Demand Deposits Adjusted ³ | 32,659 | 1,638 | 3,619 | 12.4 |
| Other Transaction Balances ⁴ | 15,640 | 873 | 2,046 | 15.0 |
| Total Non-Transaction Balances ⁶ | 137,196 | — 184 | 1,144 | 0.8 |
| Money Market Deposit | | | | |
| Accounts—Total | 45,827 | 37 | 1,932 | 4.4 |
| Time Deposits in Amounts of | | | | |
| \$100,000 or more | 37,636 | — 381 | — 1,276 | — 3.2 |
| Other Liabilities for Borrowed Money ⁵ | 25,453 | 287 | 7,568 | 42.3 |
| Two Week Averages | | | | |
| of Daily Figures | | | | |
| | Period ended 2/24/86 | Period ended 2/10/86 | | |
| Reserve Position, All Reporting Banks | | | | |
| Excess Reserves (+)/Deficiency (—) | 71 | 81 | | |
| Borrowings | 191 | 10 | | |
| Net free reserves (+)/Net borrowed(—) | — 119 | 71 | | |

¹ Includes loss reserves, unearned income, excludes interbank loans

² Excludes trading account securities

³ Excludes U.S. government and depository institution deposits and cash items

⁴ ATS, NOW, Super NOW and savings accounts with telephone transfers

⁵ Includes borrowing via FRB, TT&L notes, Fed Funds, RPs and other sources

⁶ Includes items not shown separately

⁷ Annualized percent change